

REMARKS

I. STATUS OF THE CLAIMS

In accordance with the foregoing, the claims have been amended. Claims 1-34 are pending and under consideration. It is respectfully submitted that the rejections are traversed.

II. CLAIMS 1-4, 17, 23-24, 27-29, AND 33-34 ARE RJECTED UNDER 35 USC 103(a) AS BEING UNPATENTABLE OVER IIDA ET AL (6,597,480) IN VIEW OF MAJIMA ET AL. (5,552,919).

Claim 1 recites:

wherein the control signal applied to the optical tunable filter for extracting each multiplexed signal light is known for each signal light by the detected result, and

the control signal generating unit generating the control signal by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

Iida et al. relates to an apparatus containing a wavelength tunable filter, a photo-electric conversion part, a received light intensity detecting part, a signal component detecting part, a signal intensity detecting part, an intensity variation detecting part, a peak position detecting part, and a wavelength scanning part. Iida et al. uses both an intensity variation in the received light intensity signal and an intensity variation in the signal component detected from the received light intensity.

Iida et al. fails to teach or suggest "the control signal generating unit generating the control signal by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic."

Majima et al. relates to a tunable-filter control that tracks a central wavelength in a transmission spectrum of a tunable-filter to a wavelength of light to be received.

Majima et al. fails to teach or suggest "the control signal generating unit generating the control signal by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic."

Accordingly, amended claim 1 patentably distinguishes over the cited art.

In view of the above arguments, it is respectfully submitted that amended claim 3 patentably distinguishes over the cited art.

Claims 23, 24, and 27 recite:

the control signal is generated by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

Therefore, it is respectfully submitted that amended claims 23, 24, and 27 patentably distinguish over the cited art.

Claims 28 and 29 recites

the control signal generating means generating the control signal by using the control signal applied to the optical tunable filter when the detection means detects the signal light in scanning of the wavelength transmission characteristic.

Therefore, it is respectfully submitted that amended claims 28 and 29 patentably distinguish over the cited art.

Claim 33 recites:

the control unit generating the control signal by using the control signal applied to the optical tunable filter when the detector detects the signal light in scanning of a wavelength transmission characteristic.

Therefore, it is respectfully submitted that amended claim 33 patentably distinguishes over the cited art.

Claim 34 recites:

the adjustment signal generating unit generating the adjustment signal by using the adjustment signal applied to the optical tunable filter when the detection unit detects the light signal in scanning of a wavelength transmission characteristic.

Therefore, it is respectfully submitted that amended claim 34 patentably distinguishes over the cited art.

III. CLAIMS 13-16 ARE REJECTED UNDER 35 USC 103(a) AS BEING UNPATENTABLE OVER IIDA ET AL. IN VIEW OF MAJIMA ET AL, AND FURTHER IN VIEW OF SALOMAA (2002/0030868)

Claims 13-16 depend from claim 3 and include all of the features of that claim, plus additional features which are not taught or suggested by the cited art and therefore patentably distinguish over the cited art. Furthermore, nothing has been cited or found in Salomaa that cures the deficiencies in regards to Iida et al. in view of Majima et al.

IV. CLAIMS 1-2, 23-24, 27-29, AND 33-34 ARE PROVISIONALLY REJECTED ON THE GROUND OF NONSTATUTORY OBVIOUSNESS-TYPE DOUBLE PATENTING AS BEING UNPATENTABLE OVER CLAIMS 15 AND 17-18 OF CO-PENDING APPLICATION NO. 10/787,137.

Amended claim 1 recites:

a control signal generating unit generating the control signal needed to enable the optical tunable filter to extract the signal light with a predetermined wavelength by the detection unit, based on a detected result obtained by scanning a wavelength transmission characteristic of the optical tunable filter ...

the control signal generating unit generating the control signal by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

Claim 15 of Application No. 10/787,137 ('137) recites:

an optical tunable filter which transmits and extracts signal light with a specific wavelength from signal light multiplexed by a wavelength-division multiplexing (WDM) method and whose wavelength transmission characteristic varies depending on a control signal;

a light transmission filter to which signal light extracted by the optical tunable filter is inputted and which has a wavelength transmission characteristic curve that has its peak in a wavelength located between a first continuous set band and a second continuous set band longer in wavelength than the first set band, and that linearly drops from the peak toward a shorter wavelength side than the first set band and also toward a longer wavelength side than the second set band; and

a control signal generating unit generating a control signal needed to enable the optical tunable filter to extract the signal light with a desired wavelength, based on the light transmitted through the light transmission filter,

wherein said light transmission filter further has a wavelength transmission characteristic curve that has its bottom in

a wavelength located between the first set band and a third continuous set band shorter in wavelength than the first set band and that linearly rises from the bottom toward the peak in a wavelength located between the first and second set bands and also toward the shorter wavelength side than the third set band.

Claim 17 of '137 recites:

a first optical strength detecting unit detecting the optical strength of light transmitted through said light transmission filter;
and

a storage unit storing information indicating the wavelength transmission characteristic of said light transmission filter,

wherein said control signal generating unit generates the control signal, based on both optical strength detected by said first optical strength detecting unit and information stored in the storage unit.

Claim 18 of '137 recites:

a second optical strength detecting unit detecting strength of light transmitted through said optical tunable filter,

wherein said control signal generating unit generates the control signal, based on both respective optical strength detected by said first and second optical strength detecting units and information stored in the storage unit.

Claims 15, 17 and 18 do not teach or suggest extracting "the signal light with a predetermined wavelength by the detection unit, based on a detected result obtained by scanning a wavelength transmission characteristic of the optical tunable filter" and "the control signal generating unit generating the control signal by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic." Accordingly, claim 1 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 2 depends from 1 and includes all of the features of that claim, plus additional features which are taught by '137 and is therefore patentably distinct.

Amended claim 23 recites:

generating the control signal needed to enable the optical tunable filter to extract the signal light with a predetermined

wavelength, based on the detected result obtained by scanning the wavelength transmission characteristic of the optical tunable filter...;

the control signal is generated by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

In view of the above arguments, claim 23 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Amended claim 24 recites:

generating information for designating the control signal needed to enable the optical tunable filter to extract the signal light with a designated wavelength, based on a detected result of two segments of signal light at each edge of the wavelength band obtained by the detecting result when scanning a wavelength transmission characteristic of the optical tunable filter...;

the control signal is generated by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

In view of the above arguments, claim 24 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 27 recites:

generating information for designating the control signal needed to enable the optical tunable filter to extract the signal light with a predetermined wavelength, based on both the detected result and information indicating a current operating state of the multiplexed signal light; and

generating the control signal according to the designation information and wherein the control signal applied to the optical tunable filter for extracting each multiplexed signal light is known for each signal light by the detected result, wherein

the control signal is generated by using the control signal applied to the optical tunable filter when the detection unit detects the signal light in scanning of the wavelength transmission characteristic.

In view of the above arguments, claim 27 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 28 recites:

control signal generating means generating the control signal needed to enable the optical tunable filter to extract the

signal light with a predetermined wavelength by the detection means, based on a detected result obtained by scanning a wavelength transmission characteristic of the optical tunable filter in a wavelength band including all segments of the multiplexed signal light and wherein the control signal applied to the optical tunable filter for extracting each multiplexed signal light is known for each signal light by the detected result,

the control signal generating means generating the control signal by using the control signal applied to the optical tunable filter when the detection mean detected the signal light in scanning of the wavelength transmission characteristic.

In view of the above arguments, claim 28 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 29 recites:

operation means operating to generate information for designating the control signal needed to enable the optical tunable filter to extract the signal light with a designated wavelength, based on a detected result of two segments of signal light at each edge of the wavelength band obtained by scanning of the detection means when shifting a wavelength transmission characteristic of the optical tunable filter from outside a wavelength band including all segments of the multiplexed signal light; and

the control signal generating means generating the control signal by using the control signal applied to the optical tunable filter when the detection mean detected the signal light in scanning of the wavelength transmission characteristic.

In view of the above arguments, claim 29 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 33 recites:

the control unit generating the control signal by using the control signal applied to the optical tunable filter when the detector detects the signal light in scanning of a wavelength transmission characteristic.

In view of the above arguments, claim 33 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

Claim 34 recites:

the adjustment signal generating unit generating the adjustment signal by using the adjustment signal applied to the optical tunable filter when the detection unit detects the light signal in scanning of a wavelength transmission characteristic.

In view of the above arguments, claim 34 is patentably distinct from claims 15, 17, and 18 and the provisional obviousness-type double patenting rejection is traversed.

V. CONCLUSION

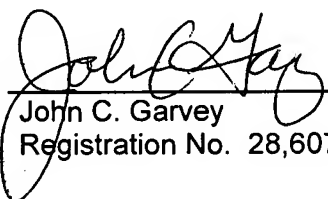
There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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